

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**



**FILED**

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Order Instituting Rulemaking Regarding Policies, )  
Procedures and Incentives for Distributed ) Rulemaking 04-03-017  
Generation and Distributed Energy Resources )  
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**RESPONSE OF HYDROGEN CORPORATION IN SUPPORT OF  
FUEL CELL ENERGY INC.'S PETITION FOR MODIFICATION  
OF DECISION 04-12-045**

Pursuant to Rule 16.4(f) of the California Public Utilities Commission ("Commission") Rules of Practice and Procedure, HydroGen Corporation (hereafter "HydroGen") submits this Response in support of Fuel Cell Energy Inc.'s ("FCE's") petition for modification of Decision 04-12-045 ("Petition").

HydroGen, a manufacturer of fuel cell power generation systems, strongly supports FCE's request to increase the limit of incentive payments available under the Self-Generation Incentive Program ("SGIP") from the current cap of 1 MW to 3 MW for the following reasons:

The SGIP program has proven itself, and the time is right to build on past SGIP successes.

An increase in the incentive cap is needed in order to cost-effectively develop the market for fuel cell technology at waste water treatment plants, landfills and other host facilities that need larger scaled projects.

An increase in the SGIP incentive cap would be consistent with the intent and purpose of the SGIP.

An increase in the SGIP incentive cap will provide a significant contribution to net greenhouse gas reduction.

The potential benefits to host customers and ratepayers clearly justify increasing the SGIP incentive cap from 1 to 3 MW.

Economies of scale realized by the 1 to 3 MW incentive cap will materially reduce the cost of power generation from fuel cells.

## **I. Introduction**

HydroGen, as a manufacturer of megawatt-class fuel cell power generation systems, has an active interest in achieving the goals and objectives of the SGIP program. Although our company primarily focuses on “waste hydrogen” applications, we do in some cases have competing interests with FCE and other manufacturers of distributed generation (“DG”) equipment. However, we agree that increasing the SGIP incentive cap from 1 to 3 MW would provide new impetus to development of larger, more impactful distributed DG applications, and help encourage further innovation and expansion of DG applications at a time when the state sorely needs new sources of renewable distributed energy.

## **II. HydroGen agrees that there are important differences between small and larger DG technologies, markets and applications.**

The economic value proposition to all stakeholders is enhanced with larger DG systems. There is an increasing marketing for DG between 1 and 3 MW that more closely meet the requirements of end user customers. There is currently a void in the marketplace in California, particularly in areas that are exposed to air quality issues, preventing many of the prime movers utilized in the past to be implemented with ever increased ratcheting of air quality standards throughout the State. Voluntary attempts by industrial and commercial facilities to reduce greenhouse gas emissions ahead of AB32 regulations are currently thwarted as they attempt to utilize waste heat to off set existing combustion technologies (i.e. boilers, chillers). End users are demanding higher efficiency out of any fuel source and many could reduce emissions to a greater extent by installing larger DG units.

**III. HydroGen agrees that the cap on incentives for larger DG installations is inhibiting development of this important market sector.**

FCE is correct in stating that larger customers cannot participate in SGIP because the MW cap on incentives deters larger installations as they become uneconomical and too risky to develop. Development is further hindered when a developer or end user customer attempts to match thermal loads at a customer site to maximize the reductions of green house gases emissions within the spirit and intent of AB32 and particularly acute when using renewable fuel sources such as methane gas or waste hydrogen.

**IV. Since the markets for large and small DG are distinct and often not competing with each other, raising the MW cap is a “win/win” proposition.**

Raising the cap to encourage new, larger applications will not negatively affect smaller, since the two groups are reaching different customer segments (i.e., industrial and utility DG, vs. commercial DG). If the Commission is concerned about running out of funding, it can monitor participation, distribute money between large and small, or (best solution) increase the budget to ensure that both large and small DG markets grow.

**V. Economies of Scale Reduce the Total Cost of Manufacturing of Both the Fuel Cell and the Hydrogen.**

Larger scale fuel cell projects will enable California to more quickly realize the deployment of fuel cell technology because of the value brought by economies of scale. By producing multi-megawatt size fuel cells, the manufacturers are able to obtain better prices on materials and to automate manufacturing. Materials comprise the most significant portion of the cost of manufacturing, and economies of scale are critical to reducing prices for materials and plant equipment. But more importantly, economies of scale significantly reduce the cost of reforming hydrogen.

Hydrogen reformation is a mature industry, and the costs of reformation are well known. Unfortunately, hydrogen reformed at the multi-kilowatt scale for use in stationary power generation is generally cost prohibitive with current technology. Hydrogen reformed on the multi-megawatt scale, on the other hand, can be cost effective. As FCE points out in its memorandum, the same is true for technology used for clean up of off-gas from waste-water treatment facilities or land fill, which clean up is necessary prior to reformation of the gas into hydrogen.

Locations where existing hydrogen infrastructure make early adoption more feasible also favor larger scale projects. Indeed, California has one of the world's more mature hydrogen infrastructures, including pipelines, waste hydrogen, and excess hydrogen production capacity. Exploiting these assets are the easiest path to successful commercial deployment of fuel cells. But these facilities are generally owned/operated by large industrial companies who are far more interested in large scale distributed generation than small.

## **VI. Conclusion.**

In conclusion, HydroGen supports an increase in the SGIP MW limit to at least 3 MW's.

Dated: August 30, 2007

Respectfully submitted,

By \_\_\_\_\_/s/

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PROOF OF SERVICE

I declare that:

I am employed in the County of Sacramento, State of California. I am over the age of eighteen years and am not a party to the within action. My business address is ELLISON, SCHNEIDER & HARRIS; 2015 H Street; Sacramento, California 95814-3109; telephone (916) 447-2166.

On August 30, 2007, I served the attached *Response of HydroGen Corporation in Support of Fuel Cell Energy Inc.'s Petition for Modification of Decision 04-12-045* by electronic mail or, if no e-mail address was provided, by United States mail at Sacramento, California, addressed to each person shown on the attached service list.

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on August 30, 2007, at Sacramento, California.

\_\_\_\_\_  
/s/  
Karen A. Mitchell

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